
Hamilton Bailey's Demonstrations of Physical Signs in Clinical Surgery

EDITED BY

Allan Clain, M.B. (Cape) F.R.C.S. (Eng.)

Consultant Surgeon, Dudley Road Hospital, Birmingham

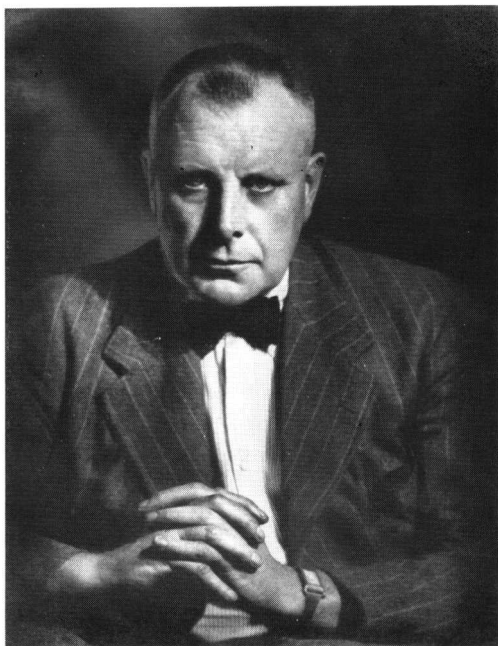
FIFTEENTH EDITION

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HAMILTON BAILEY

1894-1961

BORN in Bishopstoke, Hampshire, where his father was a general practitioner, Henry Hamilton Bailey grew up in Southport, Eastbourne, and Brighton, where his father was successively in practice. His mother was a nurse, so not surprisingly he became a medical student at the London Hospital at the early age of sixteen, after schooling at St. Lawrence College, Ramsgate.

At the outbreak of the First World War he was a fourth-year medical student, and volunteered for the Red Cross, being dispatched with the British Expeditionary Force to Belgium. Almost inevitably he was taken prisoner-of-war and set to work on the German railways. A troop train was wrecked and Bailey, with two Frenchmen, was held on a suspicion of sabotage. One of the latter was actually executed but Bailey was reprieved (apparently by the good offices of the American Ambassador in Berlin) and repatriated via Denmark, where he continued his medical studies for a while.

In 1916 he joined the Royal Navy as a Surgeon-Probationer, serving in H.M.S. *Iron Duke* at the battle of Jutland. During the battle he helped with casualties in near darkness, the electricity supply being damaged for most of the action. While in the Navy he qualified, and later returned to the London Hospital, where he gained

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the F.R.C.S. (Eng.) in 1920. During his period as surgical registrar at the London Hospital he pricked his left index finger, and tendon-sheath infection, a common sequel in those days, ensued. The end-result was an amputation of the stiff finger (this can be seen in several illustrations in this book), but he soon overcame the disability.

Appointments as Assistant Surgeon at Liverpool Royal Infirmary (1921), Surgeon to Dudley Road Hospital, Birmingham (1926), and finally as Surgeon to the Royal Northern Hospital, London (1930), followed.

In a quarter of a century Bailey produced this work, his *Emergency Surgery*, and *Short Practice of Surgery* (jointly with R. J. McNeill Love, a contemporary surgical registrar at the London Hospital), edited *Surgery of Modern Warfare* during the Second World War, and revitalized *Pye's Surgical Handicraft*. These were his most successful works; all rapidly attained a wide circulation with many editions, and it has been said '... it will readily be conceded that the present excellence of illustrations in medical text-books owes much to his inspiration and striving for perfection'. In addition to these major contributions, he wrote over 130 original papers and 9 other books.

All this, together with a busy practice, particularly in surgical emergencies, was too much even for Hamilton Bailey's massive frame, and in 1948 he suffered a breakdown in health, aggravated, no doubt, by the death of his only child, a son, in a railway accident in 1943. He retired to Deal, Kent, and later to Malaga, Spain, but continued his literary work. He died of carcinoma of the colon, and is buried in the peaceful little English cemetery in Malaga. His missionary zeal for teaching medical students has been perpetuated by the use of the royalties from his books to expand medical school libraries in developing countries.

PREFACE TO THE FIFTEENTH EDITION

To be asked to edit the fourteenth edition of this work, the first to appear after Hamilton Bailey's death, was a great honour. For that edition, as he would have done, I read all the available reviews of the previous edition, and similarly I have perused the reviews of the fourteenth edition prior to this revision. I am grateful for much constructive criticism offered by many reviewers.

Demonstrations of Physical Signs is intended primarily for the medical student commencing clinical studies, and for him it is sufficient to read the sections in ordinary type. Small-print sections are intended for postgraduates. This does not apply to the medical student in the tropics, for whom some of the small-print sections are basic. In recent years many new medical schools have been inaugurated in many parts of the world, particularly in the tropics. Consequently descriptions of physical signs of surgical importance in tropical diseases have been expanded and increased numerically and these are listed in a new Appendix.

The order of the chapters has been drastically rearranged to divide the book into five sections which, it is hoped, will be helpful to the student in a systematic study of clinical surgery.

Throughout the work alterations have been made, where necessary, to adopt the recommendations of the Committee of the American Academy of Orthopaedic Surgeons on Methods of Measuring and Recording Joint Motion. It is my hope that the demonstrations of orthopaedic abnormalities will provide a sound clinical basis for the trainee in orthopaedic surgery.

There are those who hold that the zenith of surgical diagnosis by clinical methods of examination has been reached. However, in this edition new material and illustrations demonstrating diagnostic signs in the following conditions among others have been added: 'Deformity', 'Scars', 'Traumatic Intracranial Vascular Lesions', 'Orbital Blow-out Fracture', 'Choanal Atresia', 'Arterial Obstruction in the Neck', 'Subclavian Steal Syndrome', 'de Quervain's Thyroiditis', 'The Syndrome of Cyanosis on Feeding a New-born Baby', 'Traumatic Rupture of the Aorta', 'Dysphagia Lusoria', 'Food Bolus Obstruction', 'Mesenteric Ischaemia', 'Laxity of Ligaments', 'Grease Gun Injuries', and 'Tarsal Tunnel Syndrome'. Rigorous pruning of obsolete material has made it possible to reduce the size of the book slightly.

Grateful acknowledgement is given on pp. ix-x to surgeons the world over for borrowed illustrations used in this edition, without which the book could not have reached its foremost position, and for other help. Colleagues at Dudley Road Hospital especially have been generous in allowing me the use of their clinical illustrations. In addition, I am most grateful to Mrs. Hamilton Bailey for a great deal of helpful advice. The Publishers have provided their usual meticulous standard of special technical skill with which many readers will be familiar already.

Edgbaston
Birmingham

ALLAN CLAIN

FROM THE PREFACES TO THE FIRST TO THIRTEENTH EDITIONS

THERE is a growing tendency to rely upon laboratory and other auxiliary reports for a diagnosis. A former chief was wont to picture the modern graduate of medicine, when summoned to an urgent call, driving up to the patient's house followed by a pantechicon containing a fully equipped X-ray installation, and a laboratory with a staff of assistants. Without these aids the future doctor would be unable to formulate a diagnosis. The history, and physical methods of examination, must always remain the main channels by which a diagnosis is made.

Written originally for the student commencing clinical work in the surgical wards and the out-patient department, it is to him or her that this book is still principally addressed. Couched in language that should be understood easily by anyone who has been trained in anatomy and physiology, when a term with which the beginner is unlikely to be familiar is introduced, its meaning and derivation are explained.

When I have felt not fully competent to speak from personal experience, I have studied the relative literature and sought advice from those who are better able to assess the value of particular physical signs than myself.

Individual physical signs are often known by the name of the person who first described them. In many respects this is an advantage, for an anatomico-pathological label is often cumbersome. On the other hand, an array of proper names is apt to bore the reader, especially if they do not conjure up personalities. By adding historical footnotes, not only is this objection overcome without lengthening the text, but due credit is given to whom we owe so much. If the reader is not interested, the footnotes can be disregarded.

The book has never presumed to be a complete treatise on clinical surgery; its scope is clearly set out in Chapter I. I have always intended it to be what its name implies—demonstrations—hence the pictures.

HAMILTON BAILEY

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ISOBEL F. BROWN, M.B. (Lond.), *Surgical Registrar, United Birmingham Hospitals.*
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MISS C. BROWN-KELLY
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DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY

CHAPTER I

INTRODUCTION

THE making of a surgical diagnosis resolves itself into seven stages—often not more than three or four of these will be found necessary.

1. A history is taken and a general observation of the patient is made.
2. Physical signs are elicited.
3. A mental process takes place on the part of the surgeon, whereby (1) and (2) are sifted and correlated, and a logical conclusion is drawn.
4. A differential diagnosis is entertained: this is also a mental process—largely one of exclusion, but reinforced, when possible, by further physical signs.
5. The more accessible parts of the interior are rendered visible by ingeniously constructed instruments, such as the cystoscope, sigmoidoscope, bronchoscope, oesophagoscope, and gastroscope.
6. Confirmatory investigations—e.g., radiological, biochemical, bacteriological—are carried out, usually by a colleague.
7. A biopsy or an exploratory operation is performed.

If a diagnosis is still found wanting after the seven stages have been exploited two possibilities remain: Nature cures the patient of his disease, and the diagnosis is for ever one of surmise; or he dies, and a post-mortem, the final court of appeal, if performed, reveals the exact pathology.

The seven stages may be termed the 'surgical crescendo'. *It is mainly with the second stage and the latter part of the fourth that this book is concerned.*

"Data, Data, Data!" cried Sherlock Holmes. "I can't make bricks without clay."* In the demonstrations that follow an earnest endeavour has been made to train the student to elicit and assemble facts upon which to formulate a reasoned diagnosis.

Another important objective of this book is to bring before the reader selected patients with surgical conditions for demonstration, so that not only can a physical sign or signs be sought, but in a number of instances attention can be drawn to some characteristic feature or to some syndrome† that is helpful in arriving at a diagnosis.

Not all the patients presented suffer from conditions that will be encountered frequently. In this connexion it must be pointed out that whereas a particular

* *The Copper Beeches*, Sir Arthur Conan Doyle.

† *Syndrome*. Greek, *συνδρομή* = concurrence: an aggregation of symptoms and physical signs that collectively constitute a clinical entity. When, as is often the case, there are three leading criteria, the alternative term 'triad' is sometimes employed (e.g., Hutchinson's triad, p. 89).

disease is rare in one part of the world, sometimes it is not so uncommon in another. Also it is possible that the reader, having seen an illustration and having read the corresponding text, sometimes will be enabled to make a correct diagnosis in spite of the fact that never before had he or she encountered the condition.

Armamentarium.—A few simple instruments are necessary; their cost is small. Practically all the apparatus employed in the tests described in this work is shown in *Fig. 1*.

To become a competent up-to-date clinician, the student and the practitioner must become familiar with the use of rectal, vaginal, and nasal specula, together with the auroscope, ophthalmoscope, and laryngeal mirror. In spite of requests to do

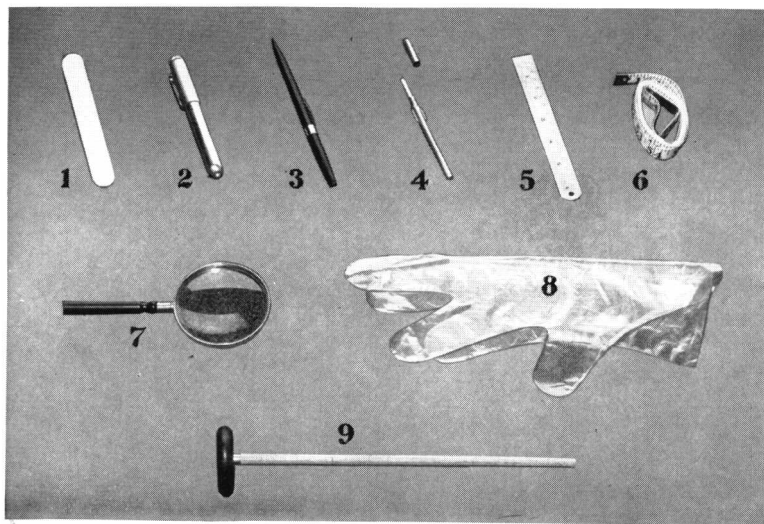


Fig. 1.—Apparatus used for diagnostic purposes in this book. 1, Wooden tongue depressor; 2, Electric pocket torch; 3, Skin marking pen; 4, Clinical thermometer; 5, Metal ruler; 6, Linen tape-measure; 7, Magnifying glass; 8, Disposable glove; 9, Tendon hammer.

so, no attempt to demonstrate the use of these important aids to diagnosis has here been made because: (1) it is considered that this is beyond the scope of physical signs; (2) an adequate description of this aspect of clinical surgery would greatly increase the size of the book.

Note-taking.—Accurate records are essential. The history, which may be all-important in suggesting the diagnosis, should be noted. For the artistically inclined a sketch is a good method of documenting the physical signs. For those not so gifted rubber stamps (*Fig. 2*) are useful.

The Boundaries of Surgical Diagnosis.—The expanding frontiers of surgical treatment have caused specialist surgeons to require an understanding of the intricacies of medical diagnosis *in their particular domains*. Thus the neurosurgeon must be able to confirm the physical signs of, say, a cerebral tumour. The chest surgeon needs the ability to recognize the signs of a heart lesion amenable to surgical treatment. However, the patient is examined initially by the relevant medical specialist who correlates the (sometimes complex) specific investigations necessary.

It is felt that physical diagnosis falling within such spheres is beyond the compass of this work, which is intended for the medical student and the trainee surgeon. The former will be instructed by those responsible for imparting the elements of medical diagnosis; the latter, if intending to specialize, should acquire

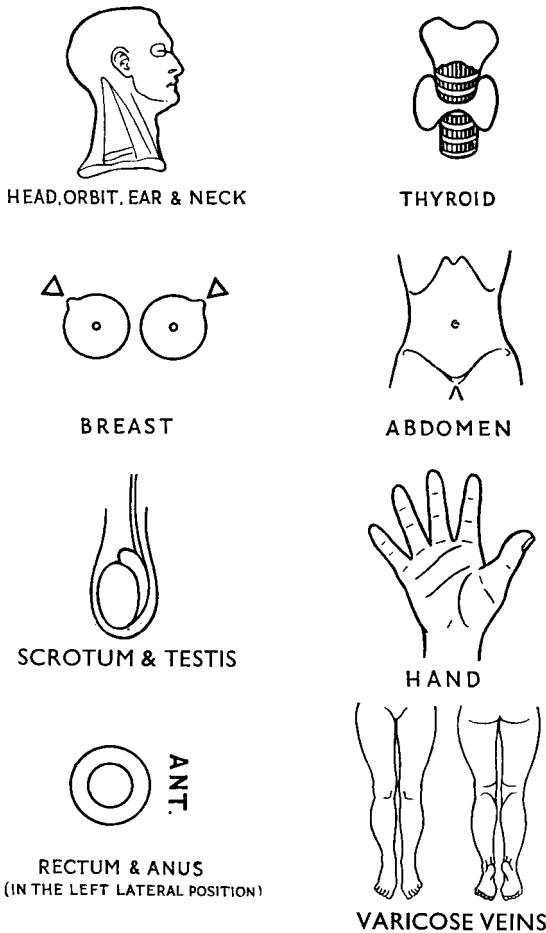


Fig. 2.—Examples of rubber-stamps used for recording physical signs.

the requisite knowledge during his training by surgeons in the speciality. Attention will thus be confined to the territory of what is usually regarded as general surgery *in the wider sense*. Gynaecological diagnosis is thus excluded, but genito-urinary and orthopaedic surgery are included.

CHAPTER II

BASIC PHYSICAL SIGNS

BEFORE commencing to describe individual physical signs, let us, as it were, tune up by harping for a moment on that fundamental principle of clinical surgery—*comparison*. When it is possible to compare an injured or diseased member or side with the corresponding normal member or side (*Fig. 3*), the opportunity should be seized greedily. Throughout the book it is hoped that this principle will be observed studiously by the reader.



Fig. 3.—The left arm is slightly swollen and enlarged veins are visible on that side. Case of spontaneous thrombosis of the axillary vein. An example of the value of comparison.

Another fundamental principle is, after concluding the examination of a local inflammatory or neoplastic lesion, *remember the regional lymphatic field*. This should become so inculcated in the clinician that it comes, not as an afterthought, but as a reflex. Conversely, when a lymph-node (or group of lymph-nodes) is found to be enlarged, the primary focus must be sought. He who fails to heed these injunctions helps to swell the numbers who do not satisfy the examiners at the final examination in surgery; such omissions are also a cause of many embarrassing mistakes in professional practice.

INCIDENTAL OBSERVATION OF THE FACE AND HANDS

'You are looking better'; even a layman can discern signs in the face that portray improvement in a patient's condition. There is no doubt that the experienced clinician subconsciously makes more use of observing the facies than he is inclined to realize.

A glance at the face of a patient who has been seen before will often indicate (without the aid of other methods of examination) whether the condition from

which he is suffering is responding to treatment. Important as is this relative assessment, we are concerned here particularly with the first glance at the face of a patient seen for the first time (*Fig. 4*). The general diagnostic importance of the facies is enormous, but unfortunately much that can be learned from it cannot be put into words.

The eyes—those windows of the mind*—tell much, but not as much as once was thought (*Fig. 5*). Even the way the patient looks at you while he recounts his history may reveal sincerity or shiftiness. Slight bulging of the eyeballs, especially if combined with a nervous manner, should foretell the necessity of excluding



Fig. 4.—In the absence of a history of trauma, ptosis not present since birth (3rd nerve paralysis) should suggest cerebrospinal syphilis. This patient's Wassermann reaction was strongly positive.



Fig. 5.—So-called Arcus Senilis. While this undoubtedly becomes commoner with advancing age, it is not unduly associated with atherosclerosis, hypertension, myocardial infarction, stroke, or diabetes. It is relatively common in those of African descent.

hyperthyroidism in due course. Pin-point pupils, or at least small pupils (*Fig. 6*), suggest tabes dorsalis or narcotic drug addiction.

A faint yellow tinge of the sclerae, unnoticed by others, may be apparent in good daylight to a trained observer. In electric light even moderate jaundice may be missed.

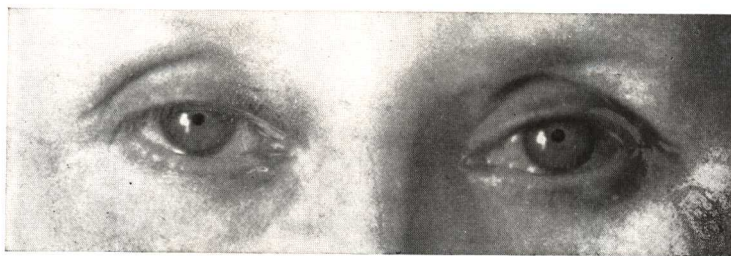


Fig. 6.—'Pin-point', slightly irregular pupils were noticed as this patient was giving her history of 'being unable to hold her water'. The pupils gave the Argyll Robertson reaction.† Knee-jerks were absent. Diagnosis—incontinence of urine due to tabes dorsalis.

In the heyday of life there is some foundation for the popular idea that bagginess under the eyes is a sign of debauchery; more often it is of ominous clinical significance (*Figs. 7, 8*).

* 'Mistress, look on me; Behold the window of my heart, mine eye.' Shakespeare, *Love's Labour's Lost*, V. 2. 848.

† Absence or diminution of the pupillary reflex to light but an active contraction to near vision.

Persons with acne rosacea or with polycythaemia rubra vera (*Fig. 9*) are liable to go through life branded as secret drinkers, an unwarranted assumption.

'Is he weather-beaten, or is it a faint cyanotic tinge?' We look at the nail-beds to determine this point. The patient has a bull-dog jaw and heavy features, suggesting acromegaly (*Fig. 10*). He is requested to hold up his hands; spade-like hands (*Fig. 11*) confirm the suspicion. Regarding the hands one does not need the mysteries of palmistry to read in them something of the past, a great deal of the present, and



Fig. 7.—In addition to bagginess under her eyes this patient had very dry skin and a sallow complexion. Case of myxoedema (*see p. 160*).

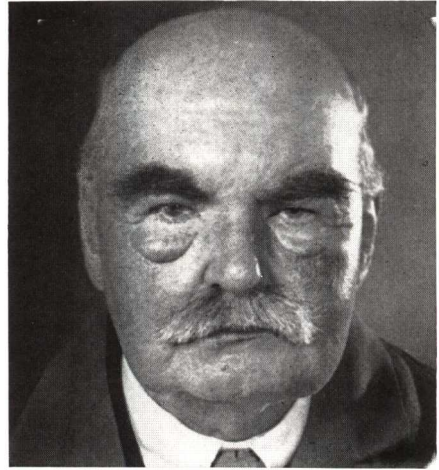


Fig. 8.—Complains of frequency and nocturia. Bagginess under the eyes suggested nephritis. Urine loaded with albumin with microscopic casts but no pus cells.



Fig. 9.—Polycythaemia rubra vera. The flared plum-coloured complexion is accompanied by similar coloration of the tongue and mucous membranes.

even a little of the future. In them is written the record of age and sex; of occupation and habits; of skill or ineptitude; of hard work or indolence (Cutler). A number of references to the hands in relation to general disease will be found in the pages of this book.

So much for a superficial introduction to an important and fascinating study of the first impression concerning the patient, in which the clinician should strive to acquire proficiency.

THE PULSE

Details of examination of the pulse are dealt with thoroughly in medical works. A few points of especial surgical importance are noted here.

1. Always regard with a certain amount of suspicion the pulse-reading of a patient *immediately* after he has entered hospital, when he is likely to be excited and nervous.



Fig. 10.—'Lantern jaw' acromegaly.

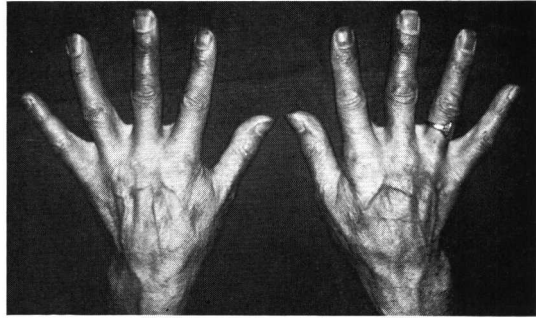


Fig. 11.—Spade-like hands belonging to patient shown in Fig. 10.

A reading 20 minutes after the patient has been put to bed is more likely to register accurately what we desire to know.

2. Remember that the *normal* pulse-rate varies with age, especially when one is dealing with children. Very little information is obtained from the pulse-rate in young infants. In the first few months of life the pulse-rate normally may increase to 170 beats per minute during periods of crying and activity.

THE NORMAL PULSE-READING

<i>Age in years</i>	<i>Pulse-rate per minute</i>
Foetus	140–160
0– 1	135
1– 2	120
3– 4	110
5– 9	90
9–11	85
12–17	80
Adult	72

3. A few perfectly healthy individuals have a much slower pulse-rate (bradycardia*) than is set out in the standard table.

4. Frequent pulse-readings are of considerable assistance in the diagnosis of internal haemorrhage. By 'frequent' is meant not a 4-hourly chart, but an hourly, or even quarter-hourly, record. This can be tabulated on a separate piece of paper, or it can be charted in red ink above the temperature chart. Usually temperature, pulse, and respirations are recorded graphically (preferably in different colours) so that any change in the patient's condition is apparent instantly.

5. Oft-repeated pulse-readings are of paramount importance in the management of cases of head injury. A gradual slowing of, or a rise in, the rate is of such diagnostic importance in early cases that it is advisable to make a routine practice of recording it every quarter-hour.

* *Bradycardia*. Greek, βραδύς = slow.